1. (Currently Amended) A composition comprising ~~C~~calcium phosphate platelets which exhibits at least one of a monetite, ~~or~~ predominant monetite or deficient apatite structure and ~~which has~~ wherein the calcium phosphate platelets have a length of between 250 nm and 800 nm.

2. (Currently Amended) The composition comprising ~~C~~calcium phosphate platelets according to claim 1, ~~characterized in that the length is between 250 nm and 600 nm, preferably~~ wherein the calcium phosphate platelets have a length of between 250 nm and 400 nm.

3. (Currently Amended) The composition comprising ~~C~~calcium phosphate platelets according to claim 1, ~~either of the preceding claims, characterized in that its~~ wherein the calcium phosphate platelets have a thickness ~~is~~ of between 1 nm and 40 nm.

4. (Currently Amended) The composition comprising ~~C~~calcium phosphate platelets according to ~~one of Claims 1 to~~ claim 3, wherein a plurality of the platelets have a monetite structure exhibiting a chemical shift of between -1.4 ppm and -1 ppm~~,~~ as measured by phosphorus-31 MAS NMR., ~~assigned to the monetite structure~~.

5. (Currently Amended) The composition comprising ~~C~~calcium phosphate platelets according to ~~one of Claims 1 to~~ claim 3, wherein a plurality of the platelets have an apetite structure exhibiting a chemical shift of between 3 ppm and 3.4 ppm, measured by phosphorus-31 MAS NMR. ~~, assigned to the apatite structure.~~

6. (Currently Amended) The composition comprising ~~C~~calcium phosphate platelets according to claim 1, ~~one of Claims 1 to 5, characterized in that it exhibits~~ wherein the calcium phosphate platelets have a calcium to phosphorus molar ratio of between 0.95 and 1.4. ~~for the monetite structure, preferably of between 1.1 and 1.3, and of between 0.95 and 1.4 for the monetite structure mixed with the brushite and apatite structure, preferably of between 1.1 and 1.3.~~

7. (Currently Amended) The composition comprising ~~C~~calcium phosphate platelets according to ~~one of Claims 1 to~~ claim 3, ~~characterized in that it exhibits~~ wherein the calcium phosphate platelets have a calcium to phosphorus molar ratio of between 1.25 and 1.67. ~~for the deficient apatite structure, preferably of between 1.3 and 1.6.~~

8. (Currently Amended) An aqueous ~~D~~ddispersion comprising calcium phosphate platelets according to claim 3. ~~one of Claims 1 to 7.~~

9. (Currently Amended) A ~~C~~colloidal dispersion ~~obtained by suspending~~ comprising calcium phosphate platelets according to one ~~of Claims 1 to 7~~ claim 3 in an aqueous solution containing ~~the presence of~~ a dispersing agent.

10. (Currently Amended) ~~Process~~ A method for preparing ~~the~~ calcium phosphate platelets wherein the calcium phosphate platelets have a length of between 250 nm and 800 nm comprising the steps of: ~~according to Claims 1 to 6, characterized in that it comprises the following stages:~~

i) preparing a solution of calcium salt and adjusting the pH of the solution to a selected value of ~~which is~~ between 4 and 6;

ii) adding a phosphate solution to the solution obtained in ~~stage~~ step i) over a period of time of between 30 minutes and 4 hours, so as to obtain a calcium to phosphorus molar ratio of between 1 and 2.5, wherein ~~and while keeping~~ the pH is maintained constant at ~~a~~ the selected value of between 4 and 6;

iii) heat treating the ~~dispersion~~ solution obtained in ~~stage~~ step ii) at a temperature of between 50°C and 95°C;

iv) separating the calcium phosphate platelets formed from the ~~dispersion~~ solution obtained in ~~stage~~ step iii);

~~and in that it uses, in~~ wherein in at least one of ~~stages~~ steps i) or ii), the solutions further comprise ~~comprising an~~ ammonium ions.

11. (Currently Amended) ~~Process~~ A method for preparing ~~the~~ calcium phosphate platelets wherein the calcium phosphate platelets have a length of between 250 nm and 800 nm comprising the steps of: ~~according to Claims 1 to 3 and 7, characterized in that it comprises the following stages;~~

i) preparing a solution of calcium salts~~,~~ and adjusting the pH ~~of which is~~ to a selected value of between 4 and 6;

ii) adding a phosphate solution to the solution obtained in ~~stage~~ step i) over a period of time of between 30 minutes and 4 hours, so as to obtain a calcium to phosphorus molar ration of between 1 and 2.5, wherein ~~and while keeping~~ the pH is maintained constant at ~~a~~ the selected value of between 4 and 6;

iii) heat treating the ~~dispersion~~ solution obtained in ~~stage~~ step ii) at a temperature of between 50°C and 95°C;

iv) adjusting the pH of the ~~dispersion~~ solution obtained in ~~stage~~ step iii) to a value of between 8 and 9.5;

v) separating the calcium phosphate platelets formed from the ~~dispersion~~ solution obtained in ~~stage~~ step iv);

~~and in that it uses~~, wherein in at least one of stages i) or ii), the solutions ~~comprising an~~ further comprise ammonium ions.

12. (Currently Amended) ~~Process~~ The method according to ~~either of claims~~ claim 10 ~~and 11~~, ~~characterized in that~~ wherein the solution of calcium salts is a $CaCl_2$ or $Ca(NO_3)_2$ solution.

13. (Currently Amended) ~~Process~~ The method according to ~~one of~~ claim 10 ~~to 12~~, ~~characterized in that~~ wherein the concentration of calcium salts in the solution is between 1M and 2.5M~~, preferably between 1.25M and 1.75M~~.

14. (Currently Amended) ~~Process~~ The method according to ~~one of Claims~~ claim 10 ~~to 13~~, ~~characterized in that~~ wherein the phosphate ~~salt~~ solution is a solution of ~~ammonium phosphate or of sodium phosphate, in particular of~~ $(NH_4)_2(HPO_4)$ or (NH_4) (H_2PO_4).

15. (Currently Amended) ~~Process~~ The method according to ~~one of Claims~~ claim 10 ~~to 14~~, ~~characterized in that~~ wherein the calcium to phosphorous molar ratio is between 1.3 and 1.7.

16. (Cancelled)

17. (Currently Amended) ~~Process~~ The emthod according to ~~Claims~~ claim 10 ~~to 16~~, ~~characterized in that~~ wherein the temperature of the heat treatment in ~~stage~~ step iii) is between 60°C and 90°C.

18. (Cancelled)

19. (New) The method according to claim 11, wherein the solution of calcium salts is a $CaCl_2$ or $Ca(NO_3)_2$ solution.

20. (New) The method according to claim 11, wherein the concentration of calcium salts in the solution is between 1M and 2.5M.

21. (New) The method according to claim 11, wherein the phosphate solution is a solution of $(NH_4)_2(HPO_4)$ or (NH_4) (H_2PO_4).

22. (New) The method according to claim 11, wherein the calcium to phosphorous molar ratio is between 1.3 and 1.7.